

REMARKS

Claims 1 – 8 and 10 – 21 are pending in the current application. Applicants respectfully request reconsideration of the claims in view of the remarks made herein and the attached declaration by Mr. Wim Engelen, one of the named inventors in this application.

35 U.S.C. § 103 Rejections

Claims 1, 3, 5 – 8, 10 – 13, 15, and 18 - 24

Claims 1, 3, 5 – 8, 10 – 13, 15, and 18 – 24 are rejected under the provisions of 35 U.S.C. § 103(a) as being unpatentable over Fr. Pub. No. 2,711,305 by Capy et al. (hereinafter “Capy”) in view of U.S. Patent No. 3,814,292 issued to Dargols et al (hereinafter “Dargols”) further in view of U.S. Patent No. 5,361,946 issued to Ginther et al (hereinafter “Ginther”) and furthermore in view of U.S. Patent No. 5,413,251 issued to Adamson et al (hereinafter “Adamson”). Applicants respectfully submit that some of the references are not properly combinable. Even if the combination of the references was deemed appropriate, the combination would still not teach, show, or suggest each claimed element of the independent claims of the present application. Applicants respectfully submit that the subject matter of the present invention is patentably distinct from the subject matter of the cited references.

The present invention relates to a mobile spray bottle that is used to spray fluids, such as pesticides, at an inclined angle pointing downwards in multiple positions in a dynamic way. Because the spray bottle is mobile, the fluid level is constantly changing. Because the chemicals that are to be dispensed are generally pesticides and the like, it is important that the fluids not leak from the spray bottle. To prevent leakage through the nozzle area when the spray bottle is inclined, the spray bottle is sized and shaped to function as a siphon that forms an air bubble that is located between the fluid to be dispersed and the trigger sprayer. The air bubble substantially decreases the amount of the fluid to be dispersed that comes into direct contact with the spray nozzle when the spray bottle is pointed in a downwards angle, which significantly reduces the amount of material available for leakage.

None of the references, alone or in combination, teach, show, or suggest each element of the claimed invention. None of the references are trying to solve the same problem that is sought to be solved in the present invention.

Capy is the primary reference relied upon by the Examiner. Many claimed features of the present invention are missing from Capy. As admitted by the Examiner on page 3 of the Office Action, Capy does not teach, at a minimum, the use of two interconnected containers or the use of the air bubble to prevent leakage through the sprayer. Furthermore, Capy fails to disclose resting the apparatus on the forearm of the user when spraying. The Examiner has cited several references that, in his opinion, when combined with Capy, contain all of the features claimed in the present invention. Applicants respectfully disagree and submit that the subject matter of the present invention is not obvious in view of the cited references and is patentably distinct from the subject matter of the references cited by the Examiner.

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness with respect to each one of the cited references, alone or in combination. A clear articulation of the reasons why the claimed invention would have been obvious is required under the provisions of 35 U.S.C. §103. (See MPEP § 2141). In *KSR*, the Supreme Court quoted *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), which stated "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396. The Examiner has failed to provide any articulated reasoning for modifying the references, as suggested by the Examiner. Not only is there no reasoning provided for making the suggested modifications, but even if the combination of the cited references was deemed appropriate, the combination would still not teach every element of the independent claims. Each of the references will be discussed individually herein.

Capy

The technical problem that the present invention seeks to overcome is leakage through the spray nozzle when the spray bottle is inclined downwards. The technical problem that Capy sought to overcome is to reduce the number of containers a hiker needs by combining two items typically used during hiking into one device. The spray bottle in Capy would not solve the problem that the presently claimed invention overcomes. Capy does not address the same problem and does not provide any mechanism to prevent leakage through the spray nozzle when the spray bottle is inclined in a downwards position. Capy is basically a water bottle that has a

spray nozzle attached to it to enable the user to spray his face, if needed, using the same container for drinking water and heat quenching. Leakage through the spray nozzle is not an issue in Capy, so it is not addressed. Because the fluid typically contained in Capy is water, it is not as important to control leakage compared to other fluids, such as pesticides that are used in the present invention. One addressing the problem of the present invention would not look to Capy as a solution to the problem.

Turning to Capy on its own, Capy discloses a U-shaped container intended to contain drinking water that also includes a means to refresh the holder by spraying water in his face for an instance. The container as per Capy is not normally inclined downwards to spray vegetation. Furthermore, inclining a container as per Fig. 1 with the sprayer directed downwards would still bring liquid in contact with the sprayer (i.e., the leakage problem would not be solved). The Capy device serves different purposes than the present invention and is substantially different from the device of the present invention. The Capy sprayer 7 is in contact with the liquid when the sprayer is inclined, which would leak like most other prior art sprayers. Most importantly, Capy does not have a conduct (G) that is shaped and sized to link two containers (Q and R') together through a swan-neck or U-shape that enables air pressure and the fluid to be dispensed to be exchanged as to form an air bubble next to the trigger sprayer (H) so that the trigger sprayer (H) does not come into contact with the fluid to be dispersed, as recited in Claim 1. Capy does not teach the use of an internal chamber (R'') as in Claims 12 – 14, nor does Capy teach the use of an external chamber (R') being in the shape of a hand grip as in Claim 15.

An important feature of the present invention is the use of a properly sized conduct (G) that allows air pressure and liquid to be exchanged between the container body (Q) and the external chamber (R'). The combination of the container body (Q), external chamber (R'), and the conduct (G) form a U-shaped neck that functions as a siphon. If the conduct (G) is sized too large, the container no longer functions as a siphon and the siphon effect is lost, which results in a large embossed container without an air bubble located in the external chamber (R') between the fluid to be dispersed and the trigger sprayer (H), such as the case with the Capy reference. As described in claim 19, the conduct (G) of the present invention is sized to enable the container body (Q) to operate at a pressure P_b and a liquid level B and the external chamber (R') to operate at a pressure P_a and a liquid level A, as shown in FIGS. 2 – 6. P_a is equal to P_b + a hydrostatic pressure P_h from a liquid level difference in B and A (C). The conduct (G) balances a pressure

between the pressure P_b and the pressure P_a . In Capy, the conduct (G) is sized too large, so no siphon effect is experienced. No air bubble forms between the fluid to be dispersed and the trigger sprayer when the sprayer is inclined.

To further support the argument that Capy fails to address the leakage problem that the present invention was able to overcome, a declaration by one of the inventors, Wim Engelen, is attached. In the declaration, Mr. Engelen declared that he has read the Capy reference and confirms that the Capy reference does not address the leakage problem, and that if the Capy spray bottle was inclined, that it indeed would leak.

Dargols

The first reference that the Examiner combined with Capy to try to piece together all of the features of the present invention is Dargols. Dargols relates to a demineralizing/filter spray dispenser. The Examiner remarked that Dargols teaches the use of an external chamber and a conduct, but does not teach the use of an air bubble. Dargols does not teach, show, or suggest the U-shape with the advantage of no liquid contact with the sprayer when inclined. Unlike the present invention, the fluid does not flow freely between the two containers 4 and 5. In Dargols, the fluid starts in 4 and then passes through a filter cartridge 7 and screen 8 to remove minerals, etc. from the fluid before the fluid is sent to the second container 5. Dargols fails to teach the use of the air bubble to prevent liquid from coming into contact with the trigger sprayer when the dispenser is inclined. As another difference, the trigger sprayer in Dargols is not connected to an internal chamber R'' (as in Claim 12), as it is in the present invention. Lastly, Dargols also fails to teach resting the apparatus on the forearm of the user when spraying.

Applicants respectfully submit that there is no motivation to combine all of the references, as suggested by the Examiner. The fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability to combine the references. See § 2143.01 of MPEP. When determining if an invention is obvious, the question is not whether the differences would have been obvious, but whether the claimed invention *as a whole* would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983). Applicants respectfully submit that the Examiner is concentrating on the differences between the present invention and the cited references, not the claimed invention as a whole. Even if the combination of Dargols with Capy was deemed

proper, the combination of the two would not contain each of the recited elements of the present invention, nor would the combination solve the problem(s) that the present invention sought to overcome. One addressing the problem of the present invention would not look to Dargol and/or Cappy, alone or combined, as a solution to the problem. The Cappy/Dargols combination would not be successful at overcoming the problems that the current invention has been able to overcome. Furthermore, neither Cappy nor Dargols, alone or in combination, teach all of the claimed elements of the present invention. The combination of Cappy and Dargols does not teach the use of the air bubble at the fixing point or connecting the trigger sprayer to an external chamber (R'), as recited in amended claim 1. Because there is no motivation or suggestion to combine the teachings of the references, no likelihood of success, and the combination of the references would not teach each of the claimed elements, Applicants respectfully submit that the present invention is not obvious in view of the cited prior art references Cappy and Dargols.

Adamson

The next reference that the Examiner combined with Cappy and Dargols to try to piece together all of the recited elements of claim 1 is Adamson. Adamson discloses a liquid soap dispensing device for mounting on a wall. The Examiner remarked that Adamson teaches the use of an air bubble. Again, Applicants can find no motivation to combine the references, as done by the Examiner. The cited references, alone or in combination with each other, are far from being obvious because major adaptations are required to each of the sprayer assemblies to make them combinable. Even if the combination of Ginther with Cappy and Dargols was deemed appropriate, it still would not teach each element of the claimed invention.

Applicants respectfully submit that the Cappy/Dargols combination and Adamson are not properly combinable. Adamson relates to a stationary dispenser that uses an air bubble to prevent the bottle from collapsing and utilizes a vacuum effect to prevent the viscous fluid from flowing through and out the pump mechanism under its own weight (see col. 3, ll. 40 – 52 of Adamson). The dispenser in Adamson is stationary and does not have the same operational difficulties to overcome that are present in the instant invention. The Cappy/Dargols combination, on the other hand, is mobile. One would not look to a stationary soap dispenser with a pump mechanism to solve the problem of leakage in a mobile sprayer bottle. Even if such combination were deemed appropriate, the bubble that is used in Adamson would not function properly and

the combined spray bottle would still leak if the spray bottle was inclined in a downward position.

The Examiner indicated that Adamson can be used to teach the use of an air bubble to prevent leakage. Even if one were to look to Adamson to supply the feature of the air bubble, the air bubble used in Adamson does not function the same as the air bubble used in the present invention. As a primary difference, in Adamson, the air bubble functions differently than the air bubble in the present invention. Because of the structure in Adamson, the air bubble in Adamson is not in direct contact with the sprayer, as in the present invention. As described in col. 3, lines 32 – 52 of Adamson, the air bubble “burps” around the curved portion of the reservoir transition area from the dispensing reservoir 40 to the supply reservoir 38 to equalize the pressure within the supply reservoir 38. The air bubble makes its way to the top of the reservoir to permit fluid in the supply reservoir 38 to drop down under gravity–feed into the dispensing reservoir 40. The air bubble maintains constant atmospheric pressure within the bottle without collapsing the bottle, while simultaneously taking advantage of the vacuum effect in the area 54 to prevent liquid in the bottle from flowing through and out the pump mechanism 32. The fluid is in direct contact with the pump mechanism 32. The vacuum effect is what prevents the fluid from leaking, not the air bubble being located in direct contact with the pump mechanism 32.

In contrast, the air bubble in the present invention provides a buffer between the fluid to be dispersed and the trigger sprayer to prevent the fluid to be dispersed from coming in direct contact with the trigger sprayer when the dispenser is inclined. The combination of the container body (Q), external chamber (R’), and conduct (G) function like a siphon in the present invention. Figs. 1 – 14 show the location of the air bubble (air chamber A) when the dispenser of the present invention in various positions. In the upright position, air accumulates in the upper regions of the external chamber (R’). When the dispenser is tilted, the fluid travels to this upper region of the external chamber (R’) and imprisons an air bubble between the fluid and the trigger sprayer, which prevents the fluid from contacting the trigger sprayer and leaking out of it. The air bubble is located at the fixing point within the external chamber (R’) and is in direct contact with the trigger sprayer, as shown in Figs. 1 – 14. The fluid can still be dispensed because the dip tube (N) extends into the external chamber (R’) that still contains fluid.

It appears that one of the reasons that the air bubbles function differently in Adamson and the present invention is that the two dispensers are different. As recited in amended claim 1, the air bubble forms around the fixing point that is contained within the external chamber (R'), or in the internal chamber (R'') when it is present, as in claim 12 and Fig. 20. As indicated previously, the container body (Q), the external chamber (R'), and the conduct (G) form a U-shape that functions as a siphon. The present invention is mobile in that the position of the dispenser is changed frequently by picking up the dispenser, setting it back down, and inclining it to spray objects. The air bubble is ultimately located in the external chamber (R'), which is in direct contact with the dispensing mechanism. In contrast, the dispenser in Adamson is stationary, so it does not have the same problems associated with it that plague most mobile dispensers. The air bubble in Adamson is ultimately located in the supply reservoir 38, which is not in direct contact with the dispensing mechanism. If the air bubble in Adamson was used in the present invention, it would simply travel from the external chamber (R') to the container body (Q). If you used the air bubble and the accompanying structure from Adamson in the present invention, the dispenser would not function the same as it does in the present invention. If the Adamson dispenser were moved from its intended position, e.g., sideways, it would not function properly because the air bubble would not be able to escape to the top of the bottle as needed. The present invention solves the problem of leakage in mobile spray bottles by forming an air bubble between the fluid to be dispersed and the trigger sprayer. The air bubble used in Adamson solves the problem of leakage of viscous fluids in stationary pumping dispensers, but not for mobile spray dispensers for less viscous fluids. One would not use the solution used in Adamson to solve the problem of leakage in a mobile spray bottle.

To further support the argument that Adamson fails to address the leakage problem that the present invention overcomes, a declaration by Mr. Engelen is attached. In the declaration, Mr. Engelen declared that he has read the Adamson reference and confirms that the Adamson reference does not address the leakage problem, and that if the Capy spray bottle was made mobile, that it would not operate properly.

Besides the independent claims, Adamson fails to teach many of the elements of the dependent claims, as well. For example, Adamson does not contain an equivalent structure for the internal chamber (R'') as in Claim 12 of the present invention. When the internal chamber (R'') is present, the air bubble is present within the internal chamber (R''). As another example,

Adamson fails to teach the use of an external chamber (R') being in the shape of a hand grip as in Claim 15.

Because there is no motivation or suggestion to combine the teachings of the references, no likelihood of success, and the combination of the references would not teach each of the claimed elements, Applicants respectfully submit that the present invention is not obvious in view of the cited prior art references Capy, Dargols, and Adamson.

Ginther

The Examiner further combined Capy, Dargols, and Adamson with Ginther. Ginther discloses a cake icing material dispenser that can rest on the forearm of the user. As indicated previously, it is envisioned that the present invention will be used to apply treatment chemicals to vegetation, such as pesticides and the like. Most of the fluids to be dispersed in the present invention are in liquid form. The Examiner combines the teaching of Ginther with Capy, Dargols, and Adamson to allegedly anticipate Applicant's claims. Again, Applicants can find no motivation or suggestion to combine the teachings of Capy, Dargols, and Adamson with Ginther. Even if the combination of Capy, Dargols, with Adamson and Ginther was deemed proper, the combination of the four would not contain each of the recited elements of the present invention, nor would the combination solve the problem(s) that the present invention sought to overcome. Inclining the Capy/Dargols/Adamson combination dispenser as per Ginther would lead to leakage at the level of the sprayer, which defeats one of the goals of the present invention. Because there is no motivation or suggestion to combine the teachings of the references, no likelihood of success, and the combination of the references would not teach each of the claimed elements, Applicants respectfully submit that the present invention is not obvious in view of the cited prior art references Capy, Dargols, Adamson, and Ginther.

Besides the independent claims, many of the features described in some of the dependent claims are also missing from the prior art references, as previously indicated. For example, claims 12 – 14 recite the use of an internal chamber (R'') that is lodged within and openly connected to the external chamber (R') so that the air bubble is located within the internal chamber (R''). As another example, with respect to claim 15, the Examiner remarked on the top of page 5 that Ginther teaches the external chamber of the coaxial tube to be shaped in the form of a handgrip. Applicants respectfully submit that the handgrip 18 in Ginther is not a container

that holds the material to be dispersed, it functions as a handle to grip while holding the apparatus and also as an opening to allow the air hose 20 to pass therethrough (see col. 4, ll. 25 – 27). The material to be dispersed is not contained within the handgrip/handle 18, as it is in the external chamber R' of the present invention.

Applicants respectfully submit that the Examiner has failed to supply any suggestion or motivation to combine the teachings and suggestions of the cited references, as advanced by the Examiner, except from using Applicants' invention as a template to create an impermissible hindsight reconstruction of Appellants' claims. The Examiner has not provided a sufficient reason or explicit analysis of why the disclosures of the references should be combined. Furthermore, if the combination of references were deemed proper, the resulting apparatus would not be successful in overcoming the difficulties sought to be overcome by the present invention, nor would the combination contain each claimed element of the present invention.

Because the Examiner has failed to establish a *prima facie* case of obviousness, Applicants respectfully submit that the subject matter of the present invention is patentably distinct from the prior art references cited by the Examiner. Applicants respectfully request withdrawal of this rejection.

Dependent Claims

The Examiner has combined Capy, Ginther, Adamson, and various other prior art references to piece together the elements of the claimed invention. The arguments made with respect to the independent claim apply equally to the dependent claims. Claims 4, 14, 16, and 17 all depend from claim 1 and therefore incorporate the same limitations. Applicants respectfully submit that the dependent claims contain patentably distinct subject matter from the subject matter of the cited prior art references.

Summary

With respect to the rejections based upon the provisions of 35 U.S.C. § 103(a), Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. Applicants can find no motivation or suggestion to combine the teachings of the cited references, there is no likelihood of success if the references were combined, and the combination of the references would not teach each of the claimed elements. The Examiner did

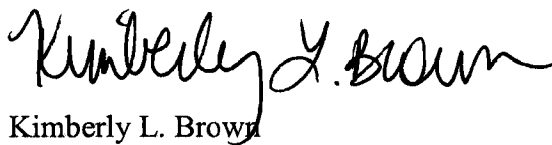
Serial No. 10/530,593

not provide any reasoning for combining or modifying the references as suggested. None of the references, alone or in combination, teach, show, or suggest the combination of the container body (Q), the external chamber (R'), and the conduct (G) that function as a siphon. Nor do any of the references, alone or in combination, teach, show, or suggest the use of the air bubble between the fluid to be dispersed and the trigger sprayer (H). Accordingly, Applicants respectfully submit that the present invention is not obvious in view of the cited prior art references.

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Applicants believe that the present pending claims are in condition for allowance. Applicants respectfully request that the Examiner reconsider the rejection of the pending claims in light of the above analysis. In order to facilitate the resolution of any questions presented by this paper, Applicants request that the Examiner directly contact the undersigned attorney by telephone at 713-787-1554 to further the discussion, reconsideration, and allowance of the claims.

Respectfully submitted,



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
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Serial No.: **10/530,593**

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For: **NEW SPRAY BOTTLE**

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DECLARATION OF WIM ENGELEN, I.D.

1. I, Wim Engelen, make this declaration relating to U.S. Patent Application Serial No. 10/530,593 (hereinafter “the ‘593 application”). I understand that my declaration will be submitted with a response to an outstanding office action in which the claims are rejected.

2. My qualifications for providing this declaration are as follows. I received a Master Industrial Design and Development degree and a Licentiate in the Consumer Goods Design from the Design & Architecture Sciences Institute in Antwerp, Belgium in 1988 – 1994. I am employed by Monsanto Europe and have worked in various positions, including as a packaging design engineer and as a packaging technology engineer, at Monsanto and Saflex, which is a division of Solutia Inc., since 1994 in various locations. It is my understanding that Solutia Inc. was formed from the Chemical group of Monsanto in 1997. It is my understanding Monsanto Europe S.A. is the assignee of the captured application.

3. More recently, I have worked on various projects related to the subject matter of the ‘593 application and I am a named inventor on the ‘593 application.

4. I have reviewed the '593 application. I have also reviewed the specification of French Publication No. 2,711,305 ("the '305 publication") and U.S. Patent No. 5,413,251 ("the '251 patent"). I understand the '305 publication and the '251 patent are cited as references against the present invention during prosecution of the '593 application in the U.S.

5. The '593 application relates to a spray bottle that can be used to spray fluids while the spray bottle is inclined at a downward angle without leakage. Leakage is prevented by an air bubble that is located between the fluid to be dispersed and the spray nozzle.

6. The '305 publication relates a container having a first nozzle for drinking fluids and filling the container and a second nozzle that includes a spray nozzle for enabling the user to spray water on the user's face. The spray bottle of the '305 publication eliminates the need for users, such as hikers, to carry both a flask and a mechanism to cool themselves.

7. The '305 publication does not address the issue of leakage throughout the spray trigger area. If the spray bottle in the '305 publication was inclined towards the spray nozzle, leakage would occur. No air bubble is present in the '305 publication between the spray nozzle and the fluid to be dispersed when the spray bottle is inclined towards the spray nozzle. If the spray bottle in the '305 publication is inclined towards the spray nozzle, the liquid would come into contact with the spray nozzle and leakage would likely occur.

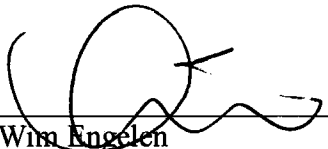
8. The '251 patent relates to a stationary soap dispenser having a first reservoir and a second reservoir that uses vacuum-pressure-controlled gravity-feed to transfer liquid from the first reservoir to the second reservoir. The first reservoir holds a supply of liquid (e.g., soap) therein. The second reservoir includes a dispensing nozzle area for receiving successive volumes of air introduced thereinto by a pump, and metering these volumes of air into said first reservoir

to replace like volumes of liquid migrating from the first reservoir to the second reservoir for subsequent dispensing.

9. The '251 patent uses a vacuum effect in the area above the liquid level in the supply reservoir to prevent the liquid in the bottle from flowing through and out the pump mechanism under its own weight. The air bubble used in the '251 patent is not located between the fluid to be dispersed and the pumping mechanism when the fluid is being pumped out of the dispenser. It is my opinion that if a less viscous fluid, such as an insecticide, is used in the dispenser of the '251 patent when it is inclined towards the pump mechanism, the fluid would come into contact with the pump mechanism and leakage would likely occur. It is my further opinion that if the dispenser in the '251 patent were removed from its stationary position of being mounted on a wall, the dispenser would not work properly because the air bubble likely would not be able to escape to the top of the dispenser in the '251 patent.

I HEREBY DECLARE THAT ALL STATEMENTS MADE OF MY OWN KNOWLEDGE ARE TRUE AND THAT ALL STATEMENTS MADE ON INFORMATION AND BELIEF ARE BELIEVED TO BE TRUE AND, FURTHER, THAT THESE STATEMENTS WERE MADE WITH THE KNOWLEDGE THAT WILLFUL FALSE STATEMENTS AND THE LIKE SO MADE ARE PUNISHABLE BY FINE OR IMPRISONMENT, OR BOTH, UNDER SECTION 1001 OF TITLE 18 OF THE UNITED STATES CODE, AND THAT SUCH WILLFUL FALSE STATEMENTS MAY JEOPARDIZE THE VALIDITY OF THE APPLICATION OR ANY PATENT ISSUED THEREON.

AUGUST 26, 2008
Date


Wim Engelen